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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,654	12/19/2000	Frederic Bompard	PHF 99, 623	7074

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EXAMINER

HANNETT, JAMES M

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,654

Applicant(s)

BOMPARD, FREDERIC

Examiner

James M Hannett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A focusing method in a camera that utilizes high-pass and low-pass filters.

Claim Objections

1: Claim 2 is objected to because of the following informalities: Claim 2 recites the limitation "the wavelets". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2: Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the system" on Line 6. There is insufficient antecedent basis for this limitation in the claim. It is unclear if "the system" refers to "the control system" or "the lens system".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3: Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN

5,065,246 Takemoto et al.

4: As for Claim 1, Takemoto et al teaches on Column 3, Lines 35-44 and Column 4, Lines 4-24 the use of a camera comprising: a lens system (1) for focusing the image of a subject on a sensitive plate, an image processing device utilizing filters for performing an image compression transformation (2), a control system acting on the lens system to ensure a sharp image of the subject on the sensitive plate, the system comprising at least a first high-pass image filter and a first low-pass image filter in the form of summers of the results of the compression transformation, characterized in that said image filters utilize filters of the image processing device.

5: In regards to Claim 4, Takemoto et al teaches on Column 4, lines 4-24 a plurality of image processing filters among which are high-pass and low-pass filters, characterized in that the output of at least one of the high-pass filters is estimated while taking the value of the output of a low-pass filter into account. Takemoto et al teaches that focus control is performed by outputting the data from the image compression circuit (2) to high-pass and low pass filters. Takemoto et al teaches that by taking into consideration both the high-frequency components and low-frequency components the camera can better constantly and automatically adjust the focus.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6: Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,065,246 Takemoto et al in view of USPN 6,151,415 Acharya et al.

7: In regards to Claim 2, Takemoto et al teaches the invention as discussed in Claim 1, Takemoto et al teaches the use of outputting image data from an image compression circuit to high-pass and low-pass filters to sum the number of high-frequency components to determine the optimal focus position. However, Takemoto et al does not teach that the image compression circuit can perform compression based on wavelet compression.

Acharya et al teaches on Column 2, lines 58-63 that it is advantageous to use wavelet transform for image compression in the field of imaging because it better approximates the features of an image. Furthermore, Acharya et al teaches on Column 1, lines 55-61 that it is advantageous to use wavelet transforms in the process of automatically focusing an imaging device.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the discrete wavelet transform as taught by Acharya et al in the image compression circuit of Takemoto et al in order to better approximate the features of the images and better perform an automatic focusing of an imaging device.

8: Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,065,246 Takemoto et al.

9: As for Claim 3, Takemoto et al teaches the invention as discussed in Claim 1, Takemoto et al teaches the use of outputting image data from an image compression circuit to high-pass and

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low-pass filters to sum the number of high-frequency components to determine the optimal focus position. However, Takemoto et al does not teach that the image compression circuit can perform compression based on the JPEG 2000 standard.

Official notice is taken that it was well known in the art at the time the invention was made to use the JPEG 2000 compression standard to perform image compression in digital imaging systems in order to perform superior image compression.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the JPEG 2000 standard in the image compression process of Takemoto et al in order to perform superior image compression.

10: Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,065,246 Takemoto et al in view of USPN 5,666,562 Kaneda et al.

11: As for Claim 5, Takemoto et al teaches the claimed invention as discussed in Claim 1, Takemoto et al teaches a method utilized in an apparatus comprising an image processing circuit formed by high-pass and low-pass image filters, characterized in that it comprises the following steps: estimation of the value of the output of at least one of said high-pass filters and control the focusing system with a view to obtaining a maximum value of high-frequency components, and release for taking the photo if the value exceeds a certain threshold. However, Takemoto et al does not teach the use of normalizing the output of the high pass filter by means of the output of a low-pass filter.

Kaneda et al teaches on Column 10, Lines 19-62 that it is advantageous when designing an automatic focusing system to normalize the output of a high-pass filter in accordance with the low contrast signal since the dynamic range of the high-frequency components greatly fluctuate

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depending on the object being photographed. Kaneda et al teaches that it is advantageous to normalize the high-frequency signals for the purpose of eliminating adverse effects of the contrast of the objects being photographed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to normalize the output from the high-pass filter of Takemoto et al in accordance with the low-frequency or low contrast components as taught by Kaneda et al in order to eliminating adverse effects of the contrast of the objects being photographed.

Allowable Subject Matter

12: Claim 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 5,428,691 Ueda teaches the use of an auto focus control system that uses high and low-pass filters; USPN 6,421,087 Ikeda teaches the use of a camera that has auto-focus control based on a luminance signal; USPN 5,396,336 Yoshii et al teaches an auto focus system for a camera; USPN 6,512,549 Iijima et al teaches the use of a camera that utilizes multiple band pass filters to perform focus control; USPN 4,980,773 Suda et al teaches the use of a focus detecting apparatus having a plurality of band-pass filters; USPN 5,485,209 Muramoto et al teaches the use of a focus detection apparatus; USPN 4,967,280 Takuma et al teaches the use of a focus control system that utilized a plurality of High-pass filters and a Low-pass filter; USPN 6,507,367 Yasuda teaches the use of a focus control system for a camera.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M Hannett whose telephone number is 703-305-7880. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James M. Hannett
Examiner
Art Unit 2612

JMH
April 23, 2004


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SUPERVISORY PATENT EXAMINER
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